

Amendments to the Claims

This listing of the claims will replace all prior versions and listings. Claims 1-29 are currently pending in this application.

Listing of Claims:

Claim 1 (currently amended): A method for detecting colorectal carcinoma ~~cancer~~ in a patient, comprising: extracting blood serum or plasma from the patient; detecting the presence or absence of beta-catenin associated RNA in the blood serum ~~of~~ or plasma; and determining the presence of the colorectal cancer based on the detected presence of beta-catenin associated RNA selected from the group consisting of beta-catenin, alpha-catenin, and E-cadherin.

Claim 2 (currently amended): The method according to claim 1, whereby the ~~cancer~~ carcinoma is colorectal cancer.

Claim 3 (original): The method according to claim 2, whereby determining the presence of colorectal cancer comprises detecting pre-neoplastic colorectal polyps based on the detected presence of beta-catenin RNA.

Claim 4 (currently amended). The method according to claim 1, whereby the DNA is derived from ~~one of the group consisting of: gene-encoded beta-catenin, gene-encoded alpha-catenin, gene-encoded E-cadherin, and other gene-encoded beta-catenin associated proteins.~~

Claim 5 (previously amended): The method according to claim 1, whereby the patient is a human or animal.

Claim 6 (currently amended): A method for detecting colorectal carcinoma ~~cancer~~ in a patient, comprising: extracting blood serum or plasma from the patient, detecting the presence or absence of beta-catenin associated DNA in the blood serum or plasma; and determining the presence of the colorectal carcinoma ~~cancer~~ based on the detected presence of beta-catenin associated DNA selected from the group consisting of beta-catenin, alpha-catenin, and E-cadherin.

Claim 7 (original): The method according to claim 6, whereby the colorectal carcinoma ~~caner~~ is colorectal cancer.

Claim 8 (original): The method according to claim 7, whereby determining the presence of colorectal cancer comprises detecting pre-neoplastic colorectal polyps based on the detected presence of beta-catenin DNA.

Claim 9 (currently amended): The method according to claim 6, whereby the DNA is derived from ~~one of the group consisting of: gene-encoded beta-catenin, gene-encoded alpha catenin, gene encoded E-cadherin, and other gene encoded beta catenin associated proteins.~~

Claim 10 (original): The method according to claim 6, whereby the patient is a human or animal.

Claim 11 (currently amended): A method for detecting colorectal adenoma ~~caner~~ in a patient comprising: extracting blood serum or plasma from the patient; detecting the presence or absence of beta-catenin-associated gene RNA in the blood serum or plasma; and determining the presence of the colorectal adenoma ~~caner~~ based on the detected presence of beta-catenin associated gene RNA selected from the group consisting of beta-catenin, alpha-catenin, and E-cadherin.

Claim 12 (original): The method according to claim 11, whereby the colorectal adenoma ~~caner~~ is colorectal cancer indicative of pre-neoplastic colorectal polyps.

Claim 13 (original): The method according to claim 12, whereby determining the presence of colorectal adenoma ~~caner~~ comprises detecting pre-neoplastic colorectal polyps based on the detected beta-catenin-associated gene RNA.

Claim 14 (currently amended): The method according to claim 11, whereby the RNA is derived from one of the group consisting of: gene-encoded beta-catenin, gene-encoded alpha catenin, gene encoded E-cadherin, and other gene encoded beta catenin associated proteins.

Claim 15 (original): The method according to claim 11, whereby the patient is a human or animal.

Claim 16 (currently amended): A method for detecting colorectal adenoma ~~cancer~~ in a patient, comprising: extracting blood serum or plasma from the patient; detecting the presence of absence of beta-catenin-associated gene DNA in the blood serum or plasma; and determining the presence of the colorectal adenoma ~~cancer~~ based on the detected presence of beta-catenin-associated gene DNA selected from the group consisting of beta-catenin, alpha-catenin, and E-cadherin.

Claim 17 (original): The method according to claim 16, whereby the colorectal adenoma ~~cancer~~ is colorectal cancer indicative of pre-neoplastic colorectal polyps.

Claim 18 (original): The method according to claim 17, whereby determining the presence of colorectal cancer comprises detecting pre-neoplastic colorectal polyps based on the presence of detected beta-catenin-associated gene DNA.

Claim 19 (currently amended): The method according to claim 16, whereby the DNA is derived from ~~one of the group consisting of, gene-encoded beta-catenin, gene-encoded alpha-catenin, gene-encoded E-cadherin, and other gene-encoded beta-catenin associated proteins.~~

Claim 20 (original): The method according to claim 16, whereby the patient is a human or animal.

Claim 21 (original): The method according to claims 2, 7, 12, or 16, whereby the colorectal ~~cancer is colorectal carcinoma or colorectal adenoma~~ presence of high levels of beta-catenin is indicative of neoplastic disease.

Claim 22 (currently amended): A method of determining the presence of colorectal carcinoma, the presence of colorectal adenoma, or the absence of colorectal carcinoma and colorectal adenoma in a patient, comprising: extracting blood serum or plasma from a patient; measuring the relative amount of beta-catenin associated DNA or RNA in the blood serum or plasma of the patient and the relative amount of beta-catenin associated DNA or RNA in the blood serum or plasma of a control person population known not to have carcinoma or adenoma; determining a ratio of the amount of beta-catenin associated DNA or RNA detected in the blood serum or plasma of the patient to the amount of beta-catenin associated DNA or RNA detected in the blood serum or plasma of a control person population known

not to have carcinoma or adenoma, whereby the ratio of approximately 30-80 indicates the presence of colorectal adenoma, the ratio of approximately above 500 indicates the presence of colorectal carcinoma, and the ratio of approximately 1 indicates the absence of colorectal carcinoma and colorectal adenoma wherein the beta-catenin associated DNA or RNA is selected from the group consisting of: beta-catenin DNA or RNA, alpha-catenin DNA or RNA, and E-cadherin DNA or RNA.

Claim 23 (original): The method according to claim 22, whereby the carcinoma is colorectal carcinoma.

Claim 24 (currently amended): The method according to claim 22, whereby the adenoma is colorectal adenoma.

Claim 25 (currently amended): The method according to claim 22, whereby the DNA or RNA is derived from one of the group consisting of: gene encoded beta-catenin DNA or RNA, gene encoded alpha-catenin, gene encoded E-cadherin, and other gene encoded beta-catenin associated proteins.

Claim 26 (original): The method according to claim 22, whereby the ratio of 30 indicates presence of colorectal adenoma.

Claim 27 (original): The method according to claim 22, whereby the ratio of 598 indicates the presence of colorectal carcinoma.

Claim 28 (currently amended): The method according to claim 22, whereby the relative amount of beta-catenin DNA or RNA in the blood serum or plasma of the patient and the relative amount of beta-catenin DNA or RNA in the blood serum or plasma of a control person population known not to have colorectal carcinoma or adenoma is measured using real time reverse transcription-polymerase chain reactions.

Claim 29 (original): The method according to claims 1, 6, 11, or 16, whereby the detecting step is accomplished using reverse transcription-polymerase chain reactions (RT-PCR).